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9
10 **IN THE UNITED STATES DISTRICT COURT**
11 **FOR THE DISTRICT OF ARIZONA**

12 WildEarth Guardians, a non-profit
13 organization, et al.,

14 Plaintiffs,
15 vs.

16 David Bernhardt, as Secretary of the
17 Department of the Interior, et al.,

18 Federal-Defendants.
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No.CV-18-00048-JGZ
(member case: consolidated
with No. CV-18-00047-JGZ)

MEMORANDUM IN
SUPPORT OF MOTION
FOR SUMMARY
JUDGMENT

(Hearing Requested)

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LIST OF EXHIBITS¹

Exhibit A	Declaration of Kim Crumbo
Exhibit B	Declaration of Greta Anderson
Exhibit C	Declaration of Nathan Newcomer
Exhibit D	Declaration of Madeline Carey
Exhibit E	Declaration of John Horning

¹ These Exhibits are properly before this Court because they are provided for the sole purpose of demonstrating Plaintiffs in No. 18-00048, WildEarth Guardians *et al.*, meet the minimum requirements for organizational and individual Article III standing.

INTRODUCTION

The Mexican wolf is one of the most endangered species in North America despite over twenty years of captive breeding and reintroduction efforts. Today, there are less than 200 individuals in the wild and their ability to survive and fully “recover” as envisioned by the Endangered Species Act (“ESA”) remains uncertain. This is due to the population’s low genetic diversity and small population size, excessive human-caused losses (including illegal killings and agency removals), inadequate regulations, and other threats.

The experts say recovery of Mexican wolves is still possible within the next several decades but only if the U.S. Fish and Wildlife Service (“the Service”) moves quickly to alleviate the threats. The best way to do this is by ensuring: (a) there are adequately sized and genetically diverse populations in the wild (the genetic health of the captive population continues to decline, so time is of the essence); (b) populations are separated but connected to one another through effective natural migration; (c) wolves are protected from human-caused losses; and (d) sufficient habitat remains available.

The recovery plans required by section 4(f) of the ESA, 16 U.S.C. §1533(f), are critical to this effort because they are the agency’s “roadmap” to recovery. An important component of these roadmaps are the “objective, measurable criteria” that – when met – result in a determination that the species is fully recovered and can be delisted. These criteria must address the threats to the species and must be expressed quantitatively, whenever possible because they are the thresholds that establish what needs to occur *before* a species can be delisted. The importance of having science-based criteria in recovery plans that address *all* threats and inform all recovery

1 actions, therefore, cannot be overstated.

2 In this case, WildEarth Guardians *et al.* (“Guardians”), challenge the
3 Service’s November, 2017 recovery plan for the Mexican wolf (“recovery
4 plan”) which serves as the Service’s “roadmap for the long-term conservation
5 and recovery” of the subspecies. 85 Fed. Reg. 20967, 20968 (April 15, 2020).
6 As outlined below, this recovery plan violates the ESA because it fails to
7 include delisting criteria addressing *all threats* to Mexican wolves.
8

9 BACKGROUND

10 I. The ESA, recovery plans, and delisting criteria.

11 The ESA is “the most comprehensive legislation for the preservation of
12 endangered species ever enacted by any nation.” *TVA v. Hill*, 437 U.S. 153,
13 179 (1978). The ESA was enacted to forestall the extinction of species,
14 whatever the cost, and allow species to recover to the point where the
15 protections afforded by the ESA are no longer necessary. *Gifford Pinchot*
16 *Task Force v. U.S. Fish & Wildlife Serv.*, 378 F.3d 1059, 1070 (9th Cir. 2004).
17 Survival and recovery are two different (though complementary) goals of the
18 ESA. *Id.* To achieve these objectives, the ESA directs the Service to develop
19 and implement recovery plans for listed species. 16 U.S.C. § 1533(f)(1).
20

21 Recovery plans are considered “one of the most important tools”
22 required by the ESA because they are a “roadmap” that lays out where the
23 Service needs to go and how best to get there. D014124. Though largely
24 guidance (not regulatory) documents, Congress nonetheless directed that all
25 recovery plans include, to the maximum extent practicable, certain
26 provisions, including “site-specific management actions” necessary to achieve
27 recovery, an estimate of time and costs, and “objective, measurable criteria
28 which, when met” would result in a determination that the species is

1 recovered and qualifies for delisting. 16 U.S.C. § 1533(f)(1)(B)(ii).

2 The directive to include delisting criteria in recovery plans is non-
3 discretionary. The “word ‘shall’ is an imperative denoting a definite
4 obligation,” *Southwest Center for Biological Diversity v. Babbitt*, 1999 WL
5 33438081 at *5 (D. Ariz. 1999), and the ESA’s use of the phrase “to the
6 maximum extent practicable” does “not permit an agency unbridled
7 discretion.” *Defenders of Wildlife v. Babbitt*, 130 F. Supp.2d 121, 131 (D.D.C.
8 2001). The phrase indicates, rather, “a strong congressional preference that
9 the agency fulfill its obligation to the extent that it is possible or feasible.”
10 *Fund for Animals v. Babbitt*, 903 F. Supp. 96, 111 (D.D.C. 1995). The plain
11 language of the ESA thus demonstrates Congress’ intention that recovery
12 plans “incorporate delisting criteria where possible or feasible,” *Southwest*
13 *Center for Biological Diversity*, 1999 WL 33438081 at *5, and these criteria
14 “must be directed towards the goal of removing the endangered or threatened
15 species from the list.” *Fund for Animals*, 903 F. Supp. at 111.

17 Relevant here, the delisting criteria required in recovery plans must be
18 “objective and measurable” and “*address threats* to the species in terms of
19 each of [the ESA’s five listing and delisting] factors outlined in section 4(a)(1)
20 of the ESA.” D014198 (emphasis added). As explained by the Service,
21 delisting criteria must include “an explicit analysis of threats under the five
22 listing factors in addition to evaluation of population or demographic
23 parameters.” D014199. “By establishing criteria for each of the five
24 listing/delisting factors that are currently relevant to the species . . . [the
25 recovery plan] is “more likely to ensure that the underlying causes of decline
26 have been addressed and mitigated prior to considering a species for
27 delisting.” *Id.*

1 This approach – the Service explains – should greatly simplify the
2 delisting process: because the ESA directs that a species change in status
3 should only occur when the recovery plan’s criteria *are met*, see 16 U.S.C. §
4 1533(f)(1)(B)(ii), and a “change in status [is only] driven by a threats
5 assessment, threats based recovery criteria are the best way to satisfy this
6 goal.” D002701. “Thus, every factor seen as a threat should include a
7 corresponding recovery criterion.” *Id.* “[H]abitat destruction might be
8 addressed by the permanent protection of habitat; stochastic events might be
9 addressed through redundancy; etc.” *Id.*; see also E000606 (email
10 emphasizing need to “develop recovery criteria based on specific threats
11 relevant to the 5 listing factors.”).

12 The five ESA threat factors that must be addressed in delisting criteria
13 include: (1) the present or threatened destruction of habitat or range; (2)
14 overutilization for various purposes; (3) disease or predation; (4) the
15 inadequacy of existing regulatory mechanisms; or (5) other natural or
16 manmade factors. 16 U.S.C. § 1533(a)(1). “Since the same five statutory
17 factors must be considered in delisting as in listing . . . [the Service], in
18 designing objective, measurable criteria, must address each of the five
19 statutory delisting factors and measure whether threats . . . have been
20 ameliorated.” *Fund for Animals*, 903 F. Supp. at 111 (citations omitted); see
21 also *Defenders of Wildlife*, 130 F. Supp.2d at 133 (same); D014198 (guidance
22 explaining the same); D014200 (same). A recovery plan, therefore, that
23 “recognizes specific threats to the conservation and survival of a threatened
24 or endangered species, but fails to recommend corrective action or explain
25 why it is impracticable or unnecessary to recommend such action, would not
26 meet the ESA’s standard.” *Fund for Animals*, 903 F. Supp. at 108. “Nor
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1 would a [recovery plan] that completely ignores threats to [the] conservation
2 and survival of a species.” *Id.*; see also *Defenders of Wildlife*, 130 F. Supp.2d
3 at 133 (setting aside recovery plan that failed to include criteria addressing
4 all threats); *Southwest Center for Biological Diversity*, 1999 WL 33438081 at
5 *6 (same).

6 **II. Recovery planning for the Mexican wolf.** ²

7 The first recovery plan produced for the Mexican wolf was released in
8 1982, see D015046, though it was more of a “survival” plan because at the
9 time the Service saw “no possibility for complete delisting of the Mexican
10 wolf” and felt that ensuring the “survival of the Mexican wolf” was the most
11 that could be achieved. D015070. Because the 1982 plan was “[w]ritten
12 against the backdrop of near-extinction,” it did not provide any delisting
13 criteria. *Center for Biological Diversity*, 2018 WL 1586651 at *7. The Service’s
14 recommendations were thus made with the “caveat that future revisions to
15 the plan would be necessary to fully implement reintroduction and recover
16 the species.” *Id.*

18 Over the next several decades, the Service continued to breed Mexican
19 wolves in captivity and in 1998 began releasing wolves into the wild in New
20 Mexico and Arizona. *Id.* With no updates or revisions to the 1982 recovery
21 plan, however, the Service continued to implement the recovery program
22 without a “roadmap” for recovery and without delisting criteria. *See id.* at *8.
23 In the early 1990s and early 2000s the Service tried to revise and update the
24

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26 ² For more background information, see Guardians’ statement of facts
27 (“Facts”), the background section in *Center for Biological Diversity v. Jewell*,
28 2018 WL 1586651 (D. Ariz. 2018), and the 2015 endangered subspecies
listing, see D015940 (80 Fed. Reg. 2488 January 16, 2015).

1 1982 recovery plan and develop delisting criteria, but to no avail. *See* Facts at
2 ¶¶ 45-47.

3 In 2010, the Service convened a team of the leading wolf scientists and
4 experts known as the Mexican wolf recovery team’s “science and planning
5 subgroup” or “SPS” (hereinafter “science team”) to prepare a new, revised
6 recovery plan for the Mexican wolf that included science-based delisting
7 criteria in accordance with the ESA. Facts at ¶¶ 56-58. After extensive
8 research, modeling, and careful assessment of threats, the science team
9 produced a complete (albeit draft) revised recovery plan for the Mexican wolf
10 with delisting criteria and presented its findings in March, 2013. *See*
11 D015865 (science team’s presentation).

12 The delisting criteria developed by the science team included requiring:
13 (a) at least three separate but connected populations of Mexican wolves in the
14 wild (totaling at least 750 wolves); (b) natural Mexican wolf dispersal
15 between the populations of at least one “genetically effective migrant” every
16 generation (breeding required); (c) human-caused losses of less than 20
17 percent per year; and (d) approved and confirmed state management plans
18 and regulatory protections after delisting. *See* D008078–79; *see also* Facts at
19 ¶¶ 60-76 (science team’s rationale for delisting criteria).

20 Following issuance of the science team’s draft recovery plan and its
21 science-based delisting criteria, however, the team was disbanded and work
22 on the recovery plan was stopped. *See* Facts at ¶¶ 77-78. Litigation over the
23 Service’s failure to prepare a recovery plan subsequently ensued, *see*
24 *Defenders of Wildlife v. Jewell*, No. CV-14-02472-JGZ (D. Ariz. 2015), and this
25 case eventually settled when the agency agreed to produce a revised recovery
26 plan by November 30, 2017. *See id.* In revising the plan, however, the Service
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1 chose to start from square one, abandon the science team's work (including
2 its draft recovery plan and science-based delisting criteria), and not
3 reconvene the science team or otherwise consult the leading wolf scientists
4 that had worked on (or contributed to) the earlier plan. *See* Facts at ¶ 78. Nor
5 were many of the former members invited to participate in the formulation of
6 a new recovery plan. *See id.*

7 Instead, the Service chose to formulate a new recovery plan with input
8 from the affected states and Mexico. The Service held a series of six closed-
9 door meetings and "workshops" limited to certain Service employees and
10 representatives from the states of Arizona, New Mexico, Utah, Colorado, and
11 Mexico from December, 2015 through February, 2017. *See* Facts at ¶¶ 79-90.
12 During this time, the states took an active role in developing a new recovery
13 plan and, in particular, formulating new delisting criteria. *See id.*

14 In June, 2017, the Service announced the availability of an entirely
15 new draft recovery plan for public review and comment. *See* D009660. In
16 response, the Service received numerous comments from the scientific
17 community (including former science team members and wolf experts) and
18 peer review members questioning the validity and adequacy of the new plan
19 and, in particular, the plan's delisting criteria. *See* Facts at ¶¶ 92-107. A final
20 recovery plan was published in November, 2017, *see* D009169.

21 The 2017 recovery plan's new delisting criteria represented a
22 significant departure from the science team's previous criteria in the 2013
23 draft recovery plan. *Compare* D009179 (new criteria) *with* D008078 (science
24 team's criteria). Mexican wolves will now be considered for delisting if: (a)
25 there is only one population in the United States averaging 320 wolves; (b)
26 one population in Mexico averaging 200 wolves; (c) a sufficient number of
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1 Mexican wolves are released from captivity into the wild to result in 22
2 Mexican wolves “surviving to breeding age” in the United States and 37 in
3 Mexico (but breeding not required); and (d) a commitment from states, tribes,
4 and Mexico that they “will” ensure regulatory mechanisms are in place in
5 areas necessary for recovery. D009199–9200.

6 **III. Guardians’ challenge to the 2017 recovery plan.**

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8 In 2018, Guardians – a coalition of organizations dedicated to ensuring
9 the recovery of Mexican wolves with members who have Article III standing,
10 see Exhibits A-E – challenged the Service’s recovery plan, including the
11 delisting criteria. See Doc. 22. The Service subsequently moved to dismiss
12 this case for lack of jurisdiction (Doc. 24) and in March, 2019 this Court
13 issued an order granting in part and denying in part this motion (Doc. 34).

14 Following this order, the sole issue remaining in this case is whether
15 the recovery plan’s delisting criteria address *all threats* to the Mexican wolf.
16 Specifically, Guardians alleges a “recovery plan’s criteria for delisting must
17 address the threats to the listed species” and the “Service’s criteria in the
18 2017 recovery plan does not address all threats to the Mexican wolves.” Doc.
19 22 at 22. This Court agreed that this claim can proceed under the ESA’s
20 citizen suit provision, 16 U.S.C. § 1540(g)(1)(C), noting that jurisdiction
21 under the ESA is proper to the extent Guardians’ alleges the Service “failed
22 to address all threats to Mexican wolves in its recovery plan” and “the agency
23 failed to address problems that the agency itself identified, without offering
24 an explanation as to why it was not practicable for the agency to do so . . .”
25 Doc. 34 at 10–11. Here, the Service’s recovery plan fails to include delisting
26 criteria to address significant threats to Mexican wolves that the agency
27 itself identified.
28

STANDARD OF REVIEW

ESA claims are reviewed under the Administrative Procedures Act (“APA”). *NEC v. Dombek*, 304 F.3d 886, 891 (9th Cir. 2002). The APA directs courts to hold unlawful and set aside agency action found to be “arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. § 706(2)(A). A court must not substitute its judgment for that of the agency but it must nonetheless engage in a “thorough, probing, in depth review,” *Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 415 (1971), and “ensure the agency considered the relevant factors and articulated a rational connection between the facts found and the choices made.” *Greater Yellowstone Coalition. v. Servheen*, 665 F. 3d 1015, 1023 (9th Cir. 2011). An agency’s action is arbitrary if it relied “on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.” *Id.* Courts must also reject agency decisions based on an “erroneous interpretation of law.” *League of Wilderness Defenders v. U.S. Forest Serv.*, 549 F.3d 1211, 1215 (9th Cir. 2008).

ARGUMENT

I. The recovery plan does not include delisting criteria addressing all threats to Mexican wolves.

The Service’s recovery plan includes delisting criteria tied to population size and trend and includes a promise that states (and Mexico) will eventually invoke regulatory protections. But that is all. *See* D009179–80.

1 The recovery plan is devoid of delisting criteria to address: (A) genetic
2 threats; (B) the threat from human-caused losses; (C) the threat from existing
3 inadequate regulatory mechanisms; and (D) the threat from loss of suitable
4 habitat, as required by the ESA.

5 **A. No delisting criteria to address genetic threats.**

6 The genetic threats facing Mexican wolves are serious. *See* Facts at ¶¶
7 14-22. Carroll (2014) explains that the genetic threats “are greater for the
8 Mexican wolf than for other wolf subspecies because [seven] wild founder
9 individuals were the source for all wolves in both the captive and
10 reintroduced populations.” R001482.

11
12 The genetic challenges facing Mexican wolves include inbreeding
13 (mating of close relatives), loss of heterozygosity (loss of genetic diversity or
14 decrease in the proportion of individuals that have different alleles for a
15 specific gene), and the loss of adaptive potential. *See* Facts at ¶¶ 14-22
16 (describing genetic threats). Many of these negative effects are already
17 evident in the captive and wild populations of Mexican wolves, *see id.*, and
18 need to be addressed quickly. As explained by the science team: “The genetic
19 health of the captive populations continues to decline each year – inbreeding
20 is increasing and heterozygosity is decreasing. We need to quickly establish
21 and grow new populations in the wild.” D015875.

22
23 The best available science reveals addressing the genetic threat to
24 Mexican wolves requires a multi-faceted approach that includes establishing
25 “adequately sized and genetically diverse core populations,” as well as
26 ensuring the populations are separated but “connected to one another
27 through effective migration.” D015867. For this reason, the science team
28 concluded that multiple separate (but connected) population need to be

1 established in the wild: in order to “address extinction risk and genetic health
2 . . . [three] populations for a total of [approximately] 750 wolves with the
3 possibility of one additional population in Mexico” would be required and
4 there must be “[e]ffective dispersal between populations.” D015875. The
5 science team also expressed the need to “quickly establish and grow new
6 populations in the wild” in response to the declining health of the captive
7 population. *Id.*

8 This is why the science team’s 2012 draft recovery plan explicitly
9 incorporated criteria to address genetic threats, including criteria: (1) on
10 population size and configuration, i.e., a meta-population of at least three
11 separate subpopulations; and (2) effective migration and connectivity
12 between the subpopulations via natural dispersal at “a rate of at least [one]
13 genetically effective migrant every generation . . .” D008079; *see also*
14 D008083 (criteria); D015869 (same). As defined by the science team, a
15 “genetically effective migrant” is “a wolf that breeds in a non-natal population
16 and produces at least [one] pup that survives to at least December 31 of the
17 year of its birth,” i.e., a wolf that actually contributes genetic material and
18 breeds in the wild. *Id.* “Dispersal of even a single migrant into such inbred
19 populations can dramatically affect genetic structure and population
20 performance.” R001482.

21
22 This delisting criteria (and the science team’s draft recovery plan that
23 included it), however, was ultimately abandoned by the Service at the
24 bequest of the states. *See* E015804; Facts at ¶¶ 87-89. The 2017 recovery plan
25 removed the genetic criteria (discussed above) and replaced them with
26 nothing comparable, *see id.* The new criteria only require: (a) the
27 establishment of two isolated populations of wolves, one in the United States
28

1 and one in Mexico that reach certain population targets (320 and 200,
2 respectively); and (b) *releases* from the captive Mexican wolf population “of a
3 sufficient number of wolves to result in 22 released Mexican wolves surviving
4 to breeding age in the United States population” and 37 released wolves
5 “surviving to breeding age” in Mexico. D009199. But the term “surviving to
6 breeding age” does not mean what it says, i.e., no actual breeding or
7 improvement in the genetic status of wolves in the wild is required. The term
8 means “a pup that lives two years to the age of breeding or an adult or sub-
9 adult that lives for a year following its release.” *Id.* This delisting criteria
10 does not address the genetic threat facing Mexican wolves for three reasons.

11
12 **1. Only *effort*, not *results* are required.**

13 First, even though the Service concedes that released Mexican wolves
14 are only able to influence the gene diversity of the population if they “survive
15 *and breed*” in the wild, D0009203 (emphasis added), and even though the
16 Service knows that released wolves “only contribute their gene diversity to
17 the recipient population when they *breed and produce offspring*,” D009194
18 (emphasis added), its delisting criteria requires no evidence of breeding or
19 new offspring.

20 The focus, rather, is solely on the *effort* the Service undertakes to
21 improve the genetic status of Mexican wolves in the wild (by releasing
22 wolves), not the *results* of those efforts. *See* D009199. The criteria only
23 requires the release of a certain number of wolves that “live two years to the
24 age of breeding” or an adult or sub-adult “that lives for a year following its
25 release.” D009179. As the Service admits: “We did not require that a released
26 or translocated wolf survive and produce offspring in the population, as the
27 basis for recovery criteria.” D0009203. The Service thus assumes that by
28

1 releasing “x” number of pups or sub-adults or adults that they will achieve “y”
2 number of wolves who produce a litter and contribute their genes to the wild
3 population. But no breeding or actual exchange of genetic material is
4 required. Nor is any improvement in the genetic status of the wild
5 population. This is thus an arbitrary approach that violates the ESA. *See* 16
6 U.S.C. § 1533(f)(1)(B)(ii) (recovery plan must include criteria that “when met”
7 would result in delisting decision).
8

9 Indeed, the Service’s own recovery guidance explains that recovery plan
10 criteria are results oriented, i.e., “values” or “standards” by which “it is
11 determined that an objective has been reached.” D014196. The purpose of
12 establishing criteria in the recovery plan is to set a standard that must be
13 *achieved* before delisting. The criteria include “measurable thresholds . . .
14 needed to achieve the recovery vision.” D016981; *see also* D014197 (same).
15 “All actions should feed achievement of the criterion.” D002701. A recovery
16 plan “identifies the threats, identifies the criterion at which point . . . the
17 threat will be sufficiently minimized, and all of the actions necessary to
18 achieve said criterion” *Id.* As such, simply agreeing to release a certain
19 number of wolves that survive to a certain age (the effort) – as required by
20 the recovery plan’s delisting criteria – is insufficient. It fails to ensure the
21 achievement of any real, on-the-ground results when it comes to addressing
22 genetic threats. As explained by the biologists, the recovery plan’s criteria
23 does not include any “requirement[] that the released wolves contribute
24 genetically to the wild population via successful reproduction.” C009239; *see*
25 *also* E024999 (peer review comment noting and questioning the same).
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1 **2. No accounting of the genetic status of Mexican**
2 **wolves at the time of recovery.**

3 Second, because the Service focused solely effort (not results), the
4 delisting criteria do not account for the actual genetic status of Mexican
5 wolves at the time of recovery.

6 As the Service is well-aware, there are a number of ways to objectively
7 measure the genetic health of the Mexican wolf population in the wild. These
8 include founder genome equivalents (“FGEs”), the amount of gene diversity
9 retained, the mean inbreeding (co-efficient), population mean kinship, and
10 effective migration. *See* Facts at ¶¶ 17-22. These are practicable, objective
11 measures of the genetic health of the wild population that are already being
12 measured and tracked by the Service, *see* R006152, and can easily be
13 converted into delisting criteria to address genetic threats.
14

15 In fact, every year the Service receives objective information about the
16 genetics of the wild population, including the FGE, gene diversity, population
17 mean kinship, inbreeding coefficient, and information on effective migration,
18 *see, e.g.*, R006152, R006154, so the “genetic status of the wild population can
19 now be directly and economically assessed using modern genetic techniques.”
20 C001951. But none of this is incorporated into the delisting criteria and the
21 actual genetic health of the Mexican wolf population is not taken into account
22 – at all. As explained during the peer review: the criterion requiring released
23 wolves “surviv[e] to breeding age is no guarantee that a wolf will actually
24 incorporate its genes to a population . . . So although this criterion is
25 measurable, I am not sure it’s the best measurement to make even with
26 *estimates* of post-release survival and reproduction. If genetic diversity is the
27 key metric here, why not define a target based directly on it and not an
28

indirect measure that may or may not reflect population status?” E024999 (emphasis in original). It makes “more sense to define a population target (e.g., observed heterozygosity), then adjust the releases accordingly instead of relying on assumptions about how well released animals integrate their genes into the population.” *Id.*

In other words, the delisting criteria should actually address genetic threats “on a metric related to the actual genetic status of the wild population at the time of recovery, not a criterion that only records the history of recovery efforts (such as the number of individuals released).” C001951; *see also* C009239 (comment from biologists questioning criterion that fails to require actual contributions of genetic material to wild population).³

3. No connectivity criteria.

Third, as the Service is well-aware, restoring “connectivity between fragmented populations is an important tool for alleviating genetic threats to endangered species.” R001481; *see also* Facts at ¶¶ 24-28. “[I]ncreased dispersal between wild populations would help address the severe genetic threats evidenced in Mexican wolf populations.” C001954; *see also* E000866 (explaining that connectivity reduces extinction risk by mitigating inbreeding depression (fitness) and slowing the loss of heterozygosity and adaptive

³ The Service insists the number of releases is a sufficient metric to “achieve gene diversity in the wild population of approximately 90 percent of that retained in the captive population.” D009203. But this is simply an assumption tied to a level of effort that ignores the key metric needed to address the genetic threat. *See* E024999. Wolves must survive *and breed* in order to influence genetic diversity. D009194. Further, aiming to achieve a gene diversity of 90 percent of the captive population (which is already experiencing genetic decline) sets the wrong baseline standard against which the genetic health of the population should be measured. *See* C001951-001952.

1 potential).

2 The Service itself recognized that Mexican wolves are threatened by
3 their small population size and isolation and require multiple, separate
4 populations with some level of effective migration or connectivity between
5 them to address genetic threats, lower the risk of extinction, and ensure
6 recovery. D015960; *see also* R001481 (Carroll (2014) explaining how
7 increased dispersal rates among small populations greatly lowered extinction
8 risk). Restoring connectivity between subpopulations is thus critical to
9 recovery. As explained by the science team, “[e]nsuring [Mexican wolf]
10 populations are connected to one another through effective natural
11 migration” is needed to alleviate the threats to the subspecies. D015867; *see*
12 *also* Facts at ¶¶ 24-28 (importance of connectivity). This is why the science
13 team put together a comprehensive memo on the need for connectivity
14 criteria, *see* D004114, and why the team explicitly insisted on connectivity
15 criteria being included in the recovery plan. *See* E000866–67 (explaining
16 rationale for connectivity criteria). But the 2017 recovery plan is devoid of
17 *any* connectivity criteria because the states objected it. *See* Facts at ¶¶ 87-90.

18
19 In the recovery plan, therefore, the Service recognizes the importance
20 of restoring connectivity and its influence on gene diversity, *see* D009194, and
21 acknowledges the “benefits of habitat connectivity” and says it will “work to
22 maintain and enhance connectivity within and between Mexican wolf
23 populations to improve gene diversity of Mexican wolves,” D009195, but no
24 connectivity criteria is included. This was a political decision that generated
25 much criticism from the scientific community. *See* Facts at ¶¶ 104-106.

26
27 In lieu of connectivity criteria, the Service’s recovery plan relies solely
28 on its releases of captive wolves and translocations to address genetic threats

1 of the wild populations. D009194. The Service considers this “genetic
 2 management” to be an effective alternative to natural dispersal and
 3 connectivity. *See id.* But as previously explained, this approach which is
 4 premised solely on the amount of releases (the effort) is a fallacy that does
 5 not address genetic threats. *See supra* sections II.A.1, II.A.2.⁴

6 **B. No delisting criteria to address the threat from human-**
 7 **caused losses.**

8 The Service has long recognized that human-caused losses are a
 9 “significant” threat and “the biggest source of Mexican wolf mortalities since
 10 the reintroduction began in 1998.” D015954; *see also* Facts at ¶¶ 29-34.
 11 Human-caused losses are any “events that function as mortalities to the
 12 population,” D016936, including illegal killings, the intentional killing and
 13 removal of Mexican wolves in the wild in response to livestock conflicts,
 14 removals due to dispersal outside designated boundaries, vehicular collisions,
 15 accidental shooting and misidentification (from coyote hunters), and
 16 incidental trapping. *See* D015954, D015956-15957.

17 For this reason, the Service explains that “[m]ortality rates will need to
 18 be sufficiently low to achieve recovery criteria because they are the primary
 19 indicator of wolf population trajectory.” D009200. “Mexican wolf populations
 20 are highly sensitive to adult mortality . . . [so] [f]or populations to grow or
 21 maintain themselves at demographic recovery targets, mortality rates will
 22
 23

24 ⁴ The Service’s reliance human intervention after delisting also conflicts with
 25 the ESA. As this Court previously noted, relying on artificial human-
 26 intervention in the form of releases and translocations post de-listing
 27 conflicts with the ESA’s definition of “recovery,” which is designed to promote
 28 populations that are “self-sustaining without human interference.” *See Center
 for Biological Diversity*, 2018 WL 1586651 at *4 (citation omitted).

1 need to stay below threshold levels” identified in Miller (2017), D008981,
2 which is roughly 25 percent, *see* D009050.

3 To address this threat, the science team recognized the need to include
4 delisting criteria in the recovery plan that specifically targets human-caused
5 losses (from sources such as vehicular collision, illegal killing, and
6 management removals) because ensuring such losses are not excessive is
7 critical to alleviating extinction risk. D015858. Criterion three in the draft
8 recovery plan was designed with this goal in mind: “The estimated annual
9 rate of human-caused losses averaged over an 8-year period [must be] . . . less
10 than 20% as measured by a statistically reliable monitoring effort.” D008079.
11 The science team explained this is “the greatest rate of anthropogenic
12 mortality and removal that a Mexican wolf population could have and still be
13 expected to have approximately 75% or greater chance of being stable or
14 increasing.” *Id.*

16 In the 2017 recovery plan, however, the Service arbitrarily chose to
17 abandon the recommendations of its own science team and remove this
18 criterion. In its place, the Service relies solely on demographic criteria
19 (population size and trend) as a surrogate for assessing human-caused losses.
20 This is a major oversight and violation of the ESA. *See, e.g., Defenders of*
21 *Wildlife*, 130 F. Supp.2d at 133 (rejecting Service’s use of population numbers
22 as a surrogate for addressing ESA’s threat factors); *Fund for Animals*, 903 F.
23 Supp. at 112 (same).

25 As the Service’s own science team recognized, the threat from human-
26 caused losses is “different than overall mortality” levels and cannot be
27 captured by demographic criteria alone. *See* D015874. Research also
28 demonstrates there is a “well-established relationship between [human-

1 caused losses] and long term wolf population viability” and “extinction risk is
2 highly sensitive to adult mortality (more so than census population size) and
3 that controlling human-caused losses is the best way to promote dispersal
4 which is critical (but difficult to achieve). D016501.

5 For these reasons, using population numbers as a surrogate to address
6 this threat – as the Service is attempting to do here – is inappropriate.
7 Recovery plan criterion must specifically target the specific threat (human-
8 caused losses) it identifies. *See id.* This comports with the Service’s own
9 recovery guidance, which explicitly recognizes the need for each criterion to
10 address each specific threat. *See* D014199. This same guidance also expressly
11 recommends *against* doing what the Service did here, i.e., using population
12 numbers as a surrogate for a species like Mexican wolves, which is heavily
13 reliant on captive breeding programs. *See id.* Doing so is problematic because
14 while population numbers may increase (due to captive releases), the threat
15 from human-caused losses remains unabated. *See id.*⁵

17 **C. No delisting criteria to address the threat from**
18 **inadequate regulatory mechanisms.**

19 The Service considers the lack of adequate regulatory mechanisms to
20 be one of the most serious threats to Mexican wolves because – even with the
21 ESA’s regulatory protections – wolves continue to be killed (and removed) in
22

23 ⁵ The science team initially debated whether this threat should be addressed
24 through recovery actions, criterion, or both. *See* E000492 (notes); D016928
25 (additional “final” notes but ones that mistakenly confuse benefits/concern
26 discussion); D014237 (notes on debate). The team ultimately chose to include
27 it as a criterion, *see* D008079, to call human-caused losses out as a threat
28 impacting population viability and because not doing so conflict with
guidance from *Fund for Animals* that demographic criteria alone are
insufficient to address specific threats. E00492; D016928 (same).

1 the United States and Mexico. D015955. This is likely to increase after
2 delisting because any state regulations or penalties (assuming they exist)
3 “would be less severe than current Federal penalties under the [ESA].” *Id.*
4 “Thus, existing state penalties in Arizona and New Mexico would not serve as
5 an adequate deterrent to illegal take.” *Id.* This is why Service concluded that
6 absent the ESA’s regulatory protections “killing of wolves in the United
7 States would increase, potentially drastically, because penalties are less
8 severe than current Federal penalties.” *Id.* The lack of existing regulatory
9 protections is also a threat to Mexican wolves in Mexico. *See id.*

11 The Service’s recovery planning guidance emphasizes the importance of
12 addressing this threat in the delisting criteria. *See* D014199. The Service
13 explains that even if a species is recovered and the population(s) have
14 rebounded, the threat from increased take of the species “could recur after
15 delisting if adequate regulatory mechanisms have not been put in place.” *Id.*

16 This is why, when preparing the recovery plan and brainstorming
17 about how to address threats in the criteria, the Service explicitly recognized
18 the importance of ensuring state management plans and regulations are
19 “sufficient” for delisting. *See* D015861. There is also a need to evaluate the
20 adequacy of other “existing” plans, regulations, actions, and policies that may
21 (individually or in the aggregate) pose a threat to Mexican wolf recovery. *See*
22 *id.* These include, but are not limited to, law enforcement policies, predator
23 control, livestock depredation and protection policies, existing wolf
24 management regulations and policies (including the restrictions on
25 movement and natural dispersal in the existing 10(j) rule), lack of funding for
26 reintroduction, and unlimited coyote hunting in occupied habitat. *Id.*; *see also*
27 *Center for Biological Diversity*, 2018 WL 1586651 at *13 (holding that the
28

1 Service's 10(j) rule was inadequate and failed to further the conservation of
2 the species).

3 In order to address the threat from inadequate regulatory mechanisms,
4 the science team insisted on criteria requiring "approved" state and tribal
5 management plans and regulations, as well as an agreement with Mexico, be
6 *in place* prior to delisting. *See* D008079. The team explained that "Service-
7 approved state and tribal management plans codified by local statutes, and
8 an agreement with Mexico such as an MOU" would need to be in place "to
9 ensure viable populations can be maintained and are highly unlikely to need
10 the protection of the ESA again." E019277; *see also* Facts at ¶¶ 72-74(plans
11 and regulatory mechanisms must be "approved" and "confirmed").
12

13 The Service even outlined what would be required to comprise an
14 adequate state management plan: "Components of an adequate plan will
15 include assurances that: (1) the natural dispersal rate required for delisting
16 is not precluded by [human-caused losses]; and, (2) management targets for
17 population size are sufficiently large relative to delisting criteria and
18 [human-caused loss] rates are sufficiently low to ensure that there is no
19 greater than a 10% chance that the Mexican wolf will fall below the recovery
20 criteria within a 10-year period. The best available science should be used to
21 establish the long-term population target size and acceptable rates of
22 [human-caused losses]." D007845; *see also* D008094 (same); D008079 (same).
23

24 This is typically how the threat from inadequate regulatory
25 mechanisms are addressed recovery plan criteria, i.e., management plans and
26 regulations for the species (after delisting) are reviewed and approved,
27 confirmed, and demonstrated to be successful. *See, e.g.*, D007734 (criteria for
28 river minnow); D007735 (same for Florida manatee); D007738 (same for sea

1 turtle).

2 Here, however, the Service removed this delisting criterion to address
 3 this specific threat. In its place, the Service simply requires states, tribes and
 4 Mexico to ensure – at some future date – that they *will* have regulatory
 5 mechanisms in place to protect Mexican wolves in the wild in areas it deems
 6 “necessary for recovery.” See D009200.⁶ “[W]e *will* ensure that the state and
 7 tribal agencies . . . have adequate regulations in place to prohibit or regulate
 8 human-caused mortality of Mexican wolves in those areas necessary for
 9 recovery [and] . . . [w]e *will* collaborate with these agencies during the
 10 implementation of the recovery plan as needed to prepare for a change in
 11 management” D009204–05 (emphasis added). Mexico “will also ensure
 12 that regulations are in place” D009205.

14 This approach is facially inadequate because it is premised entirely on
 15 what may occur in the future, i.e., what plans states, tribes, and Mexico *will*
 16 eventually develop after delisting. There are no specifics or details – let alone
 17 any information – on what regulatory mechanisms would be required to
 18 ensure the recovery of the Mexican wolf in the wild once federal protections
 19 are removed. This is arbitrary. See *Fund for Animals*, 903 F. Supp. at 113
 20 (rejecting similar approach in grizzly bear recovery plan); see also *cf. Oregon*
 21 *Natural Resources Council v. Daley*, 6 F. Supp.2d 1139, 1154–55 (D. Or.
 22 1998)(rejecting Service’s attempt to rely on future plans and efforts that are
 23 not “currently operational”).

24 As noted in *Fund for Animals*, the “promise” that future plans and

26
 27 ⁶ The Service added the qualifier “in areas necessary for recovery” at the last
 28 minute but never defines what it means. See E022841.

1 regulatory mechanisms will be developed “suggests that the [Service] still has
 2 not gathered sufficient data.” 903 F. Supp. at 113. To say, therefore, that
 3 future plans and regulatory mechanisms adequately address the threat from
 4 inadequate “existing” regulatory mechanisms “is paradoxical.” *Id.* The
 5 Service simply cannot address the threat of inadequate *existing* regulatory
 6 mechanisms by relying on state or Mexican management plans that have yet
 7 (if ever) to be developed.⁷

8 **D. No habitat-based delisting criteria.**

9 “Wolves are not habitat specialists but do require adequate prey, large
 10 areas, and protections from humans.” D015866. The Service’s 2017 Biological
 11 Report found that one of the “most important stressors, or conditions, that
 12 may influence the recovery potential of the Mexican wolf” is the need for
 13 “adequate habitat availability and suitability.” D008979.

14 Mexican wolf recovery, in particular, will require large areas of suitable
 15 habitat, which for wolves means “forested, montane terrain containing
 16 adequate biomass of wild prey (elk, white-tailed deer, mule deer, and other
 17 smaller prey) to support a wolf population.” D008979–80. Suitable habitat for
 18 wolves must also have “minimal roads and human development, as human
 19 access to areas inhabited by wolves can result in wolf mortality by facilitating
 20
 21

22 ⁷ Concerns about the adequacy of regulatory mechanisms in Mexico were
 23 expressed throughout this process. *See* Facts at ¶¶ 92-93. Further, as noted
 24 during peer review, “the U.S. has no authority over how wolves are managed
 25 in Mexico, regardless of MOUs or a recent history of dedicated recovery
 26 efforts.” E025001. The Service’s reliance on Mexico for recovery efforts is thus
 27 misplaced. *See, e.g., Fund for Animals*, 903 F. Supp. at 115 (faulting the
 28 Service for failing to explain why Canadian grizzly bears were relevant to
 recovery in the United States).

1 illegal killing.” D008980; *see also* Facts at ¶¶ 43, 92-98 (expressing concerns
2 about habitat availability due to climate change, poor conditions in Mexico,
3 and restrictions on dispersal north of Interstate-40).

4 As explained in the Service’s 2017 biological report: “Successful
5 Mexican wolf recovery will require that Mexican wolf populations occupy
6 large areas of ecologically suitable habitat. Prey availability will need to be
7 adequate to support populations, and land tenure and management . . . will
8 need to support the occupancy and management of Mexican wolves across the
9 landscape.” D008981. The future loss of “ecologically suitable” habitat for
10 Mexican wolves in both the United States and Mexico is thus a specific threat
11 that the Service itself has identified. *See id.* This is why ensuring “adequate
12 habitat availability to support viable Mexican wolf populations” is an explicit
13 recovery objective in the recovery plan. D009198.

14 The recovery plan, however, does not include *any* habitat-based
15 delisting criteria. *See* D009198-009200. The recovery plan includes a number
16 of “actions” needed to ensure adequate habitat availability exists to support
17 Mexican wolf recovery, including a general need to “maintain and protect”
18 habitat in the United States and Mexico, improve livestock management, and
19 “maintain or improve” native prey populations. D009212–13; *see also*
20 D009242 (recovery implementation plan listing various actions). But such
21 actions are not only vague and non-committal, they are untethered to the
22 delisting criteria.
23
24

25 Indeed, there are no delisting criteria pertaining to the size and
26 location of areas and habitat needed to protect Mexican wolves in the United
27 States or Mexico. Nor are there any delisting criteria to ensure adequate prey
28 species exist or any prescriptive limits on human access and livestock

1 management within Mexican wolf habitat. This is a major oversight. *See*
2 *Fund for Animals*, 903 F. Supp. at 112–13 (setting aside recovery plan for
3 failing to include habitat-based delisting criteria).

4 CONCLUSION

5 For the forgoing reasons, Guardians respectfully requests this Court
6 issue an order: (1) declaring the Service violated the ESA; and (2) remanding
7 the matter back to the Service to develop and incorporate delisting criteria
8 into the recovery plan that address *all threats* to the Mexican wolf (or, in the
9 alternative, provide an adequate explanation as to why it is not practicable to
10 do so). *See, e.g., Defenders of Wildlife*, 130 F. Supp. 2d. at 134 (ordering
11 similar relief).
12

13 Respectfully submitted this 17th day of April, 2020.

14 /s/ Matthew K. Bishop
15 Matthew K. Bishop

16 *Counsel for Plaintiffs in No. 18-00048*
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